

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

5 **Listing of Claims:**

Claim 1 (Currently Amended): A method for performing channel scanning, automatically scanning at least a channel of a received signal comprising:

scanning a plurality of frequency bands; and

10 analyzing ~~[[each]]~~at least one of the frequency bands to determine if the frequency band holds ~~[[the]]~~a received signal, if it does:

detecting a frequency response of the received signal~~[[; and]]~~, comprising:

detecting energy magnitudes of the received signal corresponding to a plurality of frequencies;

15 generating an averaging result according to the energy magnitudes; and

acquiring the frequency response of the received signal according to the averaging result; and

detecting a characteristic of a channel according to the frequency response of the received signal;

20 wherein the received signal corresponds to the channel.

Claim 2 (Original): The method of claim 1 wherein frequency ranges of the plurality of frequency bands are different.

25 Claim 3 (Original): The method of claim 1 wherein bandwidth of each frequency band is the same.

Claim 4 (Original): The method of claim 1 wherein the characteristic of the channel at least comprises an edge frequency of the channel, a carrier frequency of the channel, and a symbol rate of the channel.

- 5 Claim 5 (Currently Amended): A receiver for performing channel scanning, ~~automatically scanning at least a channel of a received signal~~ comprising:
- a tuner for scanning a plurality of frequency bands in sequence;
 - a signal detecting unit for analyzing ~~[[each]]~~ at least one of the frequency bands to determine if the frequency band holds ~~[[the]]~~ a received signal;
 - 10 a spectrum analyzer for detecting a frequency response of the received signal~~[[;~~
~~and]]~~, comprising:
 - a down-converter for detecting energy magnitudes of the received signal
corresponding to a plurality of frequencies;
 - an average unit for generating an averaging result according to the energy
15 magnitudes; and
 - a magnitude analysis generator for acquiring the frequency response of the
received signal according to the averaging result; and
 - a channel-parameter detecting unit for detecting a characteristic of ~~[[the]]~~ a channel according to the frequency response of the received signal;
 - 20 wherein the received signal corresponds to the channel.

Claim 6 (Original): The receiver of claim 5 wherein frequency ranges of the plurality of frequency bands are different.

- 25 Claim 7 (Original): The receiver of claim 6 wherein the tuner further comprises a mixer, and the tuner determines the plurality of scanned frequency bands according to a scan frequency of the mixer.

Claim 8 (Original): The receiver of claim 7 wherein the receiver further comprises a control circuit for controlling the scan frequency of the mixer according to the received signal.

- 5 Claim 9 (Original): The receiver of claim 5 wherein the signal detecting unit further comprises an auto-gain controller for adjusting a signal gain of the receiver, and the signal detecting unit detects whether the frequency band holds the received signal according to the signal gain.

- 10 Claim 10 (Cancelled)

Claim 11 (Currently Amended): The receiver of claim ~~[[10]]~~5 wherein the average unit is a low-pass filter.

- 15 Claim 12 (Currently Amended): The receiver of claim ~~[[10]]~~5 wherein the receiver further comprises a control circuit for controlling the operating frequency of the ~~adjustable~~-down-converter according to the frequency response of the received signal.

- 20 Claim 13 (Original): The receiver of claim 5 wherein the channel-parameter detecting unit further comprises:
a signal processing module for processing the frequency response of the received signal; and
a channel-parameter detecting circuit for determining the characteristic of the
25 channel according to the processed frequency response of the received signal.

Claim 14 (Original): The receiver of claim 13 wherein the signal processing module at least comprises:

a low-pass filter; and

a high-pass filter respectively coupled to the low-pass filter and the
channel-parameter detecting circuit.

- 5 Claim 15 (Original): The receiver of claim 5 wherein the characteristic of the channel at
least comprises an edge frequency of the channel, a carrier frequency of the channel,
and a symbol rate of the channel.

- 10 Claim 16 (Original): The receiver of claim 5 wherein the receiver further comprises a
channel scan/control circuit for controlling the tuner to scan the plurality of
frequency bands in sequence.